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Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv)) for US only*

Published:

— *with international search report*  
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WO 2004/048519 A3

(54) Title: TREATMENT OF MAMMALIAN REACTION TO IGE INTERACTIONS

(57) Abstract: A method is disclosed for blocking or reducing physiological reaction in a mammal to the interaction of IgE antibodies present in said mammal upon contact with the corresponding antigen, by the administration to said mammal of a therapeutically effective amount of a neurotoxin (CnT) derived from Clostridia sp.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/37286

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : A61K 39/00, 39/395, 39/02, 39/08, 38/00; C07K 1/00  
 US CL : 424/236.1, 234.1, 239.1, 247.1, 810, 805; 530/825, 350; 514/2, 826, 886, 849

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
 U.S. : 424/236.1, 234.1, 239.1, 247.1, 810, 805; 530/825, 350; 514/2, 826, 886, 849

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 Please See Continuation Sheet

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 95/28171 A1 (MOUNT SINAI SCHOOL OF MEDICINE OF THE CITY UNIVERSITY OF NEW YORK) 26 October 1995 (26.10.1995), claims; Examples; and Summary of the invention	1-4, 6-15, 17-22 and 24
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Y	SHAARI, C.M. et al. Rhinorrhea is decreased in dogs after nasal application of botulinum toxin. Otolaryngology-Head and Neck Surgery. April 1995, Vol. 112, No. 4, 566-571, entire document.	5, 16 and 23
---		1-4, 11-13, 15 and 24
Y		_____
		5-10, 14, 16-23

 Further documents are listed in the continuation of Box C. See patent family annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier application or patent published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\*

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\*

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\*

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

\*&amp;\*

document member of the same patent family

Date of the actual completion of the international search

14 April 2004 (14.04.2004)

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/37286

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claim Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claim Nos.: because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3.  Claim Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:  
Please See Continuation Sheet

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

**INTERNATIONAL SEARCH REPORT****Continuation of Item 4 of the first sheet:**

The title shall be short and precise, PCT Rule 4.3, suggested new title follows: "TREATMENT OF MAMMALIAN REACTION TO IGE INTERACTIONS"

**BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING**

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claims 1-20, drawn to a method of blocking physiological reaction to the interaction of IgE with the corresponding antigen in a mammal by administering a clostridial neurotoxin.

Group II, claims 21-23, drawn to the use of a clostridial neurotoxin for the production of a medicament.

Group III, claim 24, drawn to a medicament comprising a clostridial neurotoxin and a pharmaceutically acceptable carrier.

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The special technical feature of invention I is a method of blocking physiological reaction to the interaction of IgE with the corresponding antigen in a mammal by administering a clostridial neurotoxin. However, such a method is already disclosed in the prior art, for example, by Shaari *et al.* (*Otolaryngology-Head and Neck Surgery* 112 (4): April 1995. See abstract; Methods; Results; and Discussion. The special technical features of inventions II and III respectively are the use of a clostridial neurotoxin for the production of a medicament, and a medicament comprising a clostridial neurotoxin. These are also disclosed in the prior art, for example, by MOUNT SINAI SCHOOL OF MEDICINE OF THE CITY UNIVERSITY OF NEW YORK (WO 9528171). The special technical features do not define over the prior art.

**Continuation of B. FIELDS SEARCHED Item 3:**

DIALOG, WEST, MEDLINE, TOXLINE, BIOSIS, EMBASE, DERWENT  
clostrid?, neurotoxin?, BOTOX, IgE, allerg?, rhinitis, otitis, sinusitis, dermatitis, sneez?, cough?, itch?